Catalogue no. 75-006-X
ISSN 2291-0840

Insights on Canadian Society

The local unemployment rate and permanent retirement

by Diane Galarneau, Martin Turcotte, Yves Carrière and Eric Fecteau

Release date: April 22, 2015

Statistics Canada Statistique Canada

Canada

How to obtain more information

For information about this product or the wide range of services and data available from Statistics Canada, visit our website, www.statcan.gc.ca.

You can also contact us by

email at infostats@statcan.gc.ca

telephone, from Monday to Friday, 8:30 a.m. to 4:30 p.m., at the following toll-free numbers:

- Statistical Information Service 1-800-263-1136
- National telecommunications device for the hearing impaired 1-800-363-7629
- Fax line 1-877-287-4369

Depository Services Program

- Inquiries line 1-800-635-7943
- Fax line 1-800-565-7757

Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner. To this end, Statistics Canada has developed standards of service that its employees observe. To obtain a copy of these service standards, please contact Statistics Canada toll-free at 1-800-263-1136. The service standards are also published on www.statcan.gc.ca under "About us" > "The agency" > "Providing services to Canadians."

Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued co-operation and goodwill.

Standard table symbols

The following symbols are used in Statistics Canada publications:

. not available for any reference period
.. not available for a specific reference period
... not applicable
0 true zero or a value rounded to zero
0^s value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
^{p} preliminary
^{r} revised
x suppressed to meet the confidentiality requirements of the *Statistics Act*
^{E} use with caution
F too unreliable to be published
* significantly different from reference category ($p < 0.05$)

Published by authority of the Minister responsible for Statistics Canada

© Minister of Industry, 2015

All rights reserved. Use of this publication is governed by the Statistics Canada Open Licence Agreement.

An HTML version **is also available.**

Cette publication est aussi disponible en français.

The local unemployment rate and permanent retirement

by Diane Galarneau, Martin Turcotte, Yves Carrière and Eric Fecteau

Overview

Using data from the Longitudinal Administrative Databank (LAD), this study examines whether the expected retirement age varies according to the unemployment rate of the economic region. In addition, the study verifies if the relationship between the unemployment rate of the economic region and the probability of permanent retirement remains when other factors are taken into account.

- In 2007, the expected retirement age in economic regions with lower unemployment rates was 64.2 years, compared with 62.7 years in economic regions with higher unemployment rates.
- Over the period 1991 to 2007, workers in economic regions with higher unemployment rates were expected to retire two years earlier, on average, than workers in economic regions with lower unemployment rates.
- In 2007, the Prairie provinces had the lowest unemployment rates in the country and the highest expected retirement ages (between 64.3 and 65.5 years). Conversely, Quebec and three of the Atlantic provinces had relatively high unemployment rates and some of the lowest expected retirement ages (between 62.4 and 63.2 years).
- Employees from economic regions with higher unemployment rates remained more likely to retire before age 62 than those living in economic regions with lower unemployment rates, even when other factors influencing the probability of retirement were taken into account.

Introduction

The decision to retire is a complex process involving a set of factors, such as an individual's financial situation, personal aspirations, health, and demographic and labour market characteristics.[1]

The local unemployment rate is another factor to consider. In areas where the unemployment rate is higher, older workers might be more likely to lose their job and to have difficulty re-entering the labour market. A lack of employment opportunities could force them to retire earlier than their counterparts in areas with lower unemployment rates.

Given that several studies have shown that layoffs tend to increase the probability of retirement for older workers[2], a higher rate of unemployment could have the same effect. Older workers in areas with higher unemployment rates may therefore have to face the dual possibility of having to retire earlier than anticipated and being less financially prepared than workers in areas with lower rates of unemployment.

Using data from the Longitudinal Administrative Databank (LAD), this article begins by examining changes in expected retirement age in Canada since 1991, by unemployment rate of the economic region of residence. It then examines the impact of the local unemployment rate on the probability of retirement. A detailed version of this article, entitled *Impact of the local unemployment rate on permanent retirement*, provides additional information.

Lower unemployment rates are linked to higher expected retirement ages

To identify the impact of local unemployment on the expected retirement age, data from the Labour Force Survey (LFS) was used to retrieve the average annual unemployment rate of the working-age population for each of Canada's 73 economic regions (ER). These ER were then divided into three separate groups, depending on whether their unemployment rate was relatively low, moderate, or relatively high (see *Data sources, methods and definitions*). The expected retirement age was then calculated for each of the three ER groups (Chart 1).

There was an average difference of more than two years in the expected retirement age between regions with higher and lower unemployment rates respectively, from 1991 to 2007. The smallest difference was in 2007, when workers in regions with higher rates of unemployment could expect to retire at the age of 62.7, compared with 64.2 for workers in regions with lower rates of unemployment. These results appear to support the view that older workers living in regions with fewer employment opportunities tend to retire earlier.

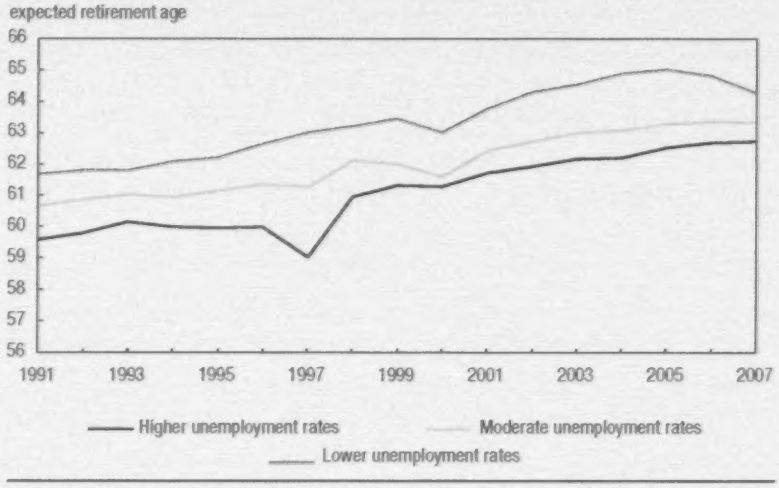
The expected retirement age is higher in the Prairies

In 2007, the expected retirement age was higher in Calgary, followed by Toronto, Montréal and Vancouver. That same ranking was constant over most of the period, i.e. from 1998 to 2007 (Charts 2.1 and 2.2), and was inversely related to the unemployment rates of the four cities during the years 1995 to 2004. These findings also tend to support the hypothesis that workers in less dynamic labour markets are pushed towards retirement earlier than their counterparts in more dynamic regions.

The relationship between expected retirement age and the unemployment rate was also seen among provinces (Charts 3.1 and 3.2). In 2007, for example, the Prairie provinces (Manitoba, Saskatchewan and Alberta) generally combined higher expected retirement ages (between 64.3 and 65.5 years) with lower unemployment rates (around 4%). On the other hand, Quebec and three of the Atlantic provinces (Nova Scotia, New Brunswick and Newfoundland and Labrador) had higher unemployment rates (between 7% and 13%), and generally lower expected retirement ages (between 62.4 and 63.2 years).

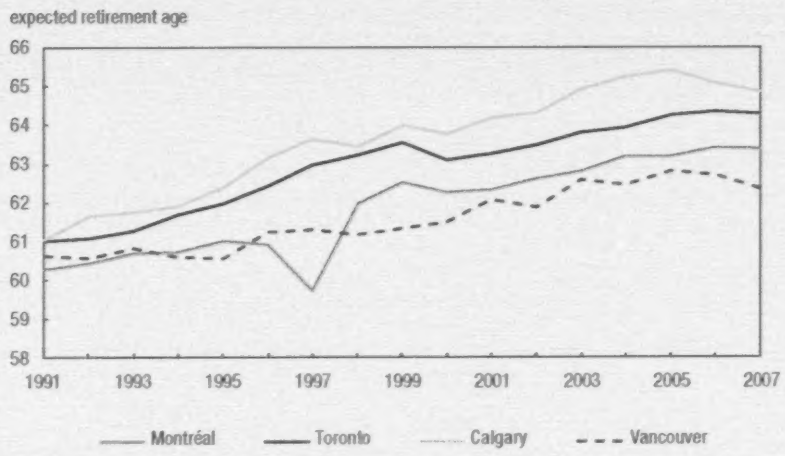
However, the relationship was more tenuous in some cases. For example, the expected retirement age in Saskatchewan was slightly higher than that of Alberta, but Saskatchewan's unemployment rate was higher. Quebec's expected retirement age was relatively low in comparison with Ontario (62.4 and 63.7 years, respectively), but the unemployment rates of the two provinces were separated by

Chart 1
The expected age of permanent retirement[1] is higher in economic regions with lower unemployment rates



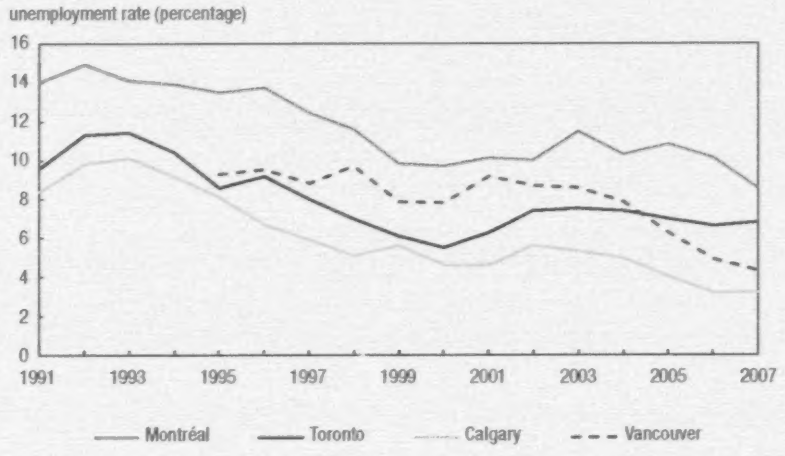
1. Permanent retirement occurs when employment income goes from over $5,000 to under $5,000 for at least the four subsequent years.
Source: Statistics Canada, Longitudinal Administrative Databank (LAD), 1991 to 2011.

Chart 2.1
During the entire period, the expected age of permanent retirement[1] was higher in Calgary



1. Permanent retirement occurs when employment income goes from over $5,000 to under $5,000 for at least the four subsequent years.
Source: Statistics Canada, Longitudinal Administrative Databank (LAD), 1991 to 2011.

Chart 2.2
Unemployment rates were generally lower in Calgary during the period



Note: Data for Vancouver are not available before 1995.
Source: Statistics Canada, Labour Force Survey (LFS), 1991 to 2007.

less than one percentage point in 2007. The implication is that other factors—in addition to local unemployment—can have an impact on the decision to retire.

The impact of the local unemployment rate is confirmed

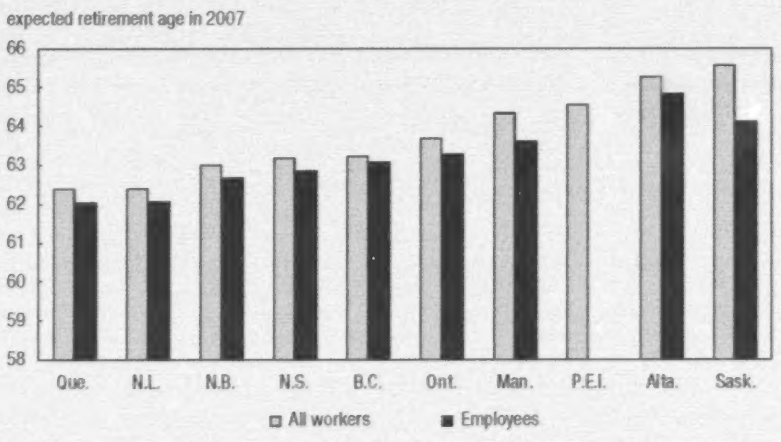
The impact of regional economic conditions (such as unemployment) and other factors that might influence retirement age can simultaneously be taken into account in a survival model. In these models[3], the variable of interest is the probability of retirement before age 62, (i.e., between 50 and 61)[4] of individuals born between 1941 and 1946.

For most cohorts, a higher unemployment rate was associated with a higher probability of retirement before age 62, even when other factors were taken into account (Table 1).

For example, the probability that a woman from the 1941 cohort would retire before age 62 was nearly 75%, if she resided in an ER with a higher unemployment rate. In other words, about three quarters of the working women in these regions retired before age 62. In comparison, 53% of their counterparts in ERs with a lower unemployment rate did so, a difference of over 20 percentage points.

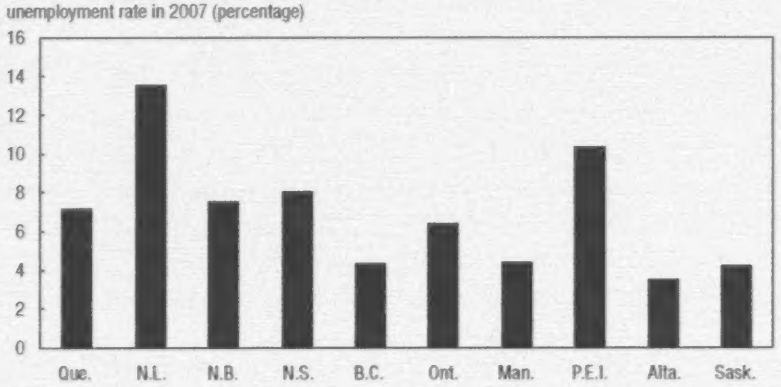
Among men who were born in the same year, the same difference amounted to 11 percentage points. This is because the probability of retiring before age 62 was 49% among male employees living in regions with a higher unemployment

Chart 3.1
Alberta and Saskatchewan had the highest expected age of permanent retirement[1] in 2007



1. Permanent retirement occurs when employment income goes from over $5,000 to under $5,000 for at least the four subsequent years.
Notes: The term "All workers" encompasses employees and self-employed workers. Given the smaller sample size, the results are not shown for P.E.I. employees.
Source: Statistics Canada, Longitudinal Administrative Databank (LAD), 2007 to 2011.

Chart 3.2
In 2007, Alberta and Saskatchewan had the lowest unemployment rates of all provinces



Source: Statistics Canada, Labour Force Survey, 2007.

rate, compared with 38% for their counterparts living in regions with a lower unemployment rate.[5]

The difference in the probability of retirement before age 62 between regions with lower and higher unemployment rates, however, became smaller over time—to the point of no longer being significant for men born in 1946. Interestingly, the probability of retiring decreased faster from one cohort to the next in regions with higher unemployment rates.

The overall improvement in labour market conditions seen in the second half of the 1990s could partly explain this decrease. The difference in unemployment rates between ERs decreased during the period, thus rendering it more difficult to identify in a regression model.[6] Furthermore, lower unemployment rates are not only associated with a lower probability of losing a job, but also with a higher probability of finding a new one following a layoff.

Other factors influence retirement

Although the unemployment rate has a significant impact on retirement before age 62, it is important to note that other factors have an even greater influence, such as having a disability and collecting employment insurance benefits during the year. Furthermore, union membership and having contributed to a pension plan for at least five years were also associated with a higher probability of retirement. Finally, single men were more likely to retire before age 62 than married or divorced

Table 1
Predicted probability of permanent retirement[1] before age 62 by the unemployment rate of the economic region[2], men and women born between 1941 and 1946

	1941	1942	1943	1944	1945	1946
	predicted probabilities[4] (percentage)					
Unemployment rate[3] of economic region						
Men						
Lower unemployment rates	37.5	32.9	30.8	30.0	29.3	32.3
Moderate unemployment rates	41.1	37.0	34.1	32.4	31.2	33.1
Higher unemployment rates	48.5	45.4	41.3	37.7	35.1	34.5
Women						
Lower unemployment rates	53.3	51.7	43.9	46.2	44.3	42.9
Moderate unemployment rates	60.8	59.3	50.4	50.6	48.3	45.8
Higher unemployment rates	74.5	73.6	63.6	59.7	56.9	51.6

1. Permanent retirement occurs when employment income goes from over $5,000 to under $5,000 for at least the four subsequent years.
2. In addition to age and unemployment rate of the economic region of residence, the models include marital status, the presence of a disability (reflected by claiming the disability credit), collection of unemployment insurance benefits during the year, union membership, an indication of self-employment during the year (yes or no), socioeconomic status (as measured by an individual's cumulative personal income between 1982 and 1991), and the number of years of contribution to a pension plan. In total, 12 models were estimated (i.e. for each of the six cohorts born between 1941 and 1946, separately for men and women).
3. Lower, moderate and higher unemployment rates vary for each cohort, based on the unemployment rates to which they were exposed. These rates decreased between 1991 and 2007, given the overall improvement in employment conditions.
4. All probabilities in the table are significant at the 5% level or under, except for the 1946 cohort of men.
Source: Statistics Canada, Longitudinal Administrative Databank (LAD), 1991 to 2011.

men, while married women were more likely to retire sooner. Such results indicate that even if local labour market conditions matter, other factors also play an important role in the retirement decisions of Canadian workers.

Diane Galarneau *is a senior analyst in the Labour Statistics Division at Statistics Canada,* ***Martin Turcotte*** *is a senior analyst in the Social and Aboriginal Statistics Division at Statistics Canada,* ***Eric Fecteau*** *is a student in the University of Ottawa co-op program, and* ***Yves Carrière*** *is an associate professor in the Department of Demography at University of Montréal.*

Data sources, methods and definitions

Data sources

This article is based on data from the Longitudinal Administrative Databank (LAD), from 1991 to 2011. The LAD contains a sample of 20% of T1 tax records. The LAD is an administrative source, and has a limited number of variables related to the demographic and labour market characteristics of individuals, but has the advantage of having a large sample size over a long period, and a high level of detail with respect to income sources. Because this database is longitudinal, it can be used to follow taxfilers over time, and to observe transition-related phenomena (such as retirement).

Readers looking for more information on the data, concepts and indicators used in this study are invited to read the detailed version of this article, *Impact of the local unemployment rate on permanent retirement*. That version also provides a comparison of trends obtained with data from the Labour Force Survey (LFS) from 1976 to 2013.

Definition of permanent retirement

Since the LAD does not identify individuals who retired in a specific year, a definition was created for the purposes of this article. The population for this article comprises people likely to retire; i.e., individuals between the ages of 50 and 80, who had employment income at a given time during the observation period.

Retirees are individuals who have gone from being employed (having an employment income of over $5,000 in 2011) in a given year, to retired (having an employment income of $5,000 or under) the following year. For retirement to be considered "permanent," an individual's employment income must remain under the established threshold for a minimum of four years, so as not to confuse retirement with temporary work interruptions, such as work interruptions related to a layoff or an illness. To be included in the sample, an individual must be part of the LAD in all of the five years that are necessary to determine his or her retirement status; i.e., the year of retirement and the following four years. Retirements are considered to be "permanent" based on this definition, even if some might have returned to the labour market after a five-year period.

Local unemployment rate

To identify the impact of local unemployment on the expected retirement age, data from the LFS was used to retrieve the average annual unemployment rate corresponding to the working-age population in each economic region (ER). Canada's 73 ERs were then divided into three separate groups, according to whether their unemployment rate was relatively low, moderate, or relatively high in a given year. In 2007, for example, the average unemployment rate in regions with a higher unemployment rate was 9.7%, compared with 6.3% in regions with a moderate rate, and 3.9% in regions with a lower rate. These groupings are not necessarily stable over time, meaning that some ERs may move to a different group from one year to the next, depending on the annual unemployment rate of the ER.

Notes

1. See Schellenberg and Ostrovsky (2008).
2. See Chan and Stevens (1999 and 2002); Coile and Levine (2009 and 2010); Bosworth and Burtless (2011); and Gutsman et al. (2011).
3. The results pertain to employees who were earning $15,000 or more at age 50, and whose earnings remained above this level for at least six of the nine years before they turned 50. This is to avoid including taxfilers with a marginal attachment to the labour market. Similar results were obtained by estimating models without the $15,000 limit.
4. These ages were chosen based primarily on the definition of retirement adopted in this article (which requires workers to be retired over a minimum period of four years), limiting the observation period to the years 1991 to 2007. When the present analysis was conducted, the last year of observation in the LAD was 2011.
5. These results are consistent with those of a number of U.S. studies that examined the impact of the 2008 recession, and found that high unemployment rates affected the timing of retirement (Coile and Levine 2009, 2010, 2011; Gustman et al. 2011; Bosworth and Burtless 2011). These results are also in line with those of Canadian studies on the impact of a layoff on the retirement decisions of older workers, which showed that layoffs were associated with early retirement (Finnie and Gray, 2011; Neil and Schirle, 2009; Chan and Stevens, 1999 and 2002).
6. In the wake of the 1991 recession, the average unemployment rate in Canada remained relatively high (at over 10%) until 1996, and then fell to 7% in 2007. The 1941 cohort, who turned 50 in 1991, was exposed to higher unemployment rates (ranging between 11.6% and 8.5% from 1991 to 2000) than the 1946 cohort, for which the unemployment rates varied between 9.4% and 7.0% from 1998 to 2007. This improvement was observed in all three ER categories. Furthermore, unemployment rates varied less across ERs for more recent cohorts.

References

Bosworth, Barry P. and Gary Burtless. 2011. *Recessions, Wealth Destruction, and the Timing of Retirement*. CRR Working Paper 2010–22. Center for Retirement Research at Boston College.

Chan, Sewin and Ann Huff Stevens. 2002. *How Does Job Loss Affect the Timing of Retirement?* NBER Working Paper no. 8780. National Bureau of Economic Research.

Chan, Sewin and Ann Huff Stevens. 1999. *Employment and Retirement Following a Late Career Job Loss*. Working Paper no. 1999–03. Department of Economics, Rutgers University.

Coile, Courtney C. and Philip B. Levine. 2011. "Recessions, retirement, and social security." *American Economic Review*. Vol. 101, no. 3. May.

Coile, Courtney C. and Philip B. Levine. 2010. *Recessions, Reeling Markets, and Retiree Well-Being*. NBER Working Paper no. 16066. National Bureau of Economic Research.

Coile, Courtney and Philip B. Levine. 2009. *The Market Crash and Mass Layoffs: How the Current Economic Crisis May Affect Retirement*. NBER Working Paper no. 15395. National Bureau of Economic Research.

Finnie, Ross and David Gray. 2011. *Labour-Force Participation of Older Displaced Workers in Canada : Should I Stay or Should I Go?* IRPP Study no. 15. Institute for Research on Public Policy.

Gustman, Alan L., Thomas L. Steinmeier and Nahid Tabatabai. 2011. *How Did the Recession of 2007–2009 Affect the Wealth and Retirement of the Near Retirement Age Population in the Health and Retirement Study?* NBER Working Paper no. 17547. National Bureau of Economic Research.

Neil, Christine and Tammy Schirle. 2009. "Remain, retrain or retire: Options for older workers following job loss." *Retirement Policy Issues in Canada*. Michael G. Abbott, Charles M. Beach, Robin W. Boadway and James G. MacKinnon (eds.). Montréal. McGill–Queen's University Press.

Schellenberg, Grant and Yuri Ostrovsky. 2008. "The retirement plans and expectations of older workers." *Canadian Social Trends*. No. 86. September. Statistics Canada Catalogue no. 11–008–X.